U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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NICKEL IN DECEMBER 1996

Reported domestic nickel consumption in December, on a daily average basis, was only slightly less than that of November, according to the U.S. Geological Survey. Daily usage by the stainless steel industry was up 9% from the November figure of 99 metric tons (t). Consumption of elemental nickel to make nickel-base corrosion resistant alloys also improved, increasing 6% to 38 t per day. However, demand for elemental nickel by the brass industry was down significantly. Sales to plating companies averaged 39 t per day, unchanged from that of November. Percentages reported in this paragraph may not be verifiable owing to the concealment of company proprietary data. Trade data for December will appear in a subsequent issue.

Eramet meets with SMSP and Falconbridge to discuss future courses of action in New Caledonia

On May 2, 1997, officials of Eramet SA met with their counterparts from Société Minière du Sud Pacifique (SMSP) and Falconbridge Ltd. in an attempt to resolve an ongoing dispute over nickel mining concessions in the North Province of New Caledonia (Buchan, 1997a). In 1996, SMSP and Falconbridge formed a partnership with the intention of building a ferronickel plant in the North Province. The plant would have a capacity of 54,000 t per year of Ni in ferronickel and use local lateritic ores as feedstock (du Luart, 1997). A scoping study already has been prepared and presented to both the governments of France and the overseas territory.

The ferronickel project is being supported by the Kanak Socialist National Liberation Front, a pro-independence movement, which is especially strong in that part of the island (Buchan, 1997b). The Kanak Front has been told that the mining and smelting complex would employ 700 islanders and lead to the indirect employment of an additional 2,000. However, to be economically viable, the project requires a minimum of 25 years of ore reserves. These reserves exist, but many of the better deposits near the proposed plant site are already controlled by Eramet's subsidiary, Société Le Nickel-SLN, the principal mine operator on the island.

The Government of France was considering buying or, as a last resort, expropriating SLN's Koniambo deposit and turning it over to SMSP and Falconbridge. Eramet had not planned to mine the deposit until the year 2010. The Government of France is the largest shareholder in Eramet, with an interest of 55%. The minority shareholders, which include several mutual funds and pension funds based in the United States and the United Kingdom, are strongly opposed to any type of expropriation. The Government was also considering paying Eramet some $300 million for the loss of Koniambo.

Eramet has countered with a proposal calling for SMSP to cut back on its ore exports and, instead, use part of its mine production as feed for the proposed plant. SLN and the island's other mine operators would make up any shortages in feedstocks. A third proposal would swap the Poum deposit, currently held by SMSP, for the Koniambo deposit.

There are three key deposits in the vicinity of the proposed plant: Tiébaghi, Poum, and Art. Together they have an estimated 1.6 million t of Ni in garnierite reserves averaging 2.5% Ni. If the concessions issue can be settled, construction of the plant could begin as early as 1999, with production commencing in the year 2003 and continuing thru 2028.

SLN accounted for 42% of New Caledonian mine production in 1996. The company also operates the Doniambo metallurgical plant outside the capital of Nouméa. In 1996, the Doniambo plant produced 53,412 t of Ni, of which 42,173 t were contained in ferronickel and 11,239 t in matte. The other 58% of mine production was divided between SMSP, J. C. Berton Mines, Nickel Mining Corp., Société des Mines de la Tontouta, and several other independent mining companies.

Prepared by the Metals Section and the Data Collection and Coordination Section, May 14, 1997.

The territory exported 69,900 t of Ni in ore in 1996. The 69,900 t of ore included 35,000 t in garnerite shipped to Japan, 15,200 t in garnerite shipped to the United States, and 19,700 t in limonitic laterites shipped to Australia. The Kanak Front and the local trade unions would prefer to have more ore processed on the island and less exported. The trade unions temporarily blocked ore shipments in April in support of the proposed ferronickel plant.

The citizens of New Caledonia are to vote on self-determination in a referendum sometime in 1998.

References Cited

Buchan, David, 1997a, Protagonists seek deal over Eramet: Financial Times [London], May 5, 1997, p. 20.

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du Luart, Roland, Senator, 1997, Rapport n° 212: Mission Nouvelle-Calédonie [Report No. 212: Mission to New Caledonia] Senat - Commission des Finances (In French). (Accessed May 5, 1997, on the World Wide Web at URL http://www.senat.fr/rap/r96-212/r96-212_mono.html)

TABLE 1
CONSUMPTION OF NICKEL (EXCLUSIVE OF SCRAP), BY FORM AND USE 1/

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total	Total year to date
1995:					
December	6,250	1,860	244	8,360	105,000
January-December	82,600	17,300	4,950	105,000	XX
1996:					
January	6,930	1,500	309	8,740	8,740
February	7,010	1,230	268	8,510	17,200
March	6,760	1,480	318	8,560	25,800
April	6,620	1,490	249	8,360	34,200
May	7,060	1,470	285	8,820	43,000
June	6,710	1,530	236	8,470	51,400
July	6,480	1,160	131	7,770	59,200
August	6,290	1,450	141	7,880	67,100
September	6,030	1,540	178	7,750	74,800
October	6,670	1,750	320	8,740	83,600
November:	5,610	1,340	365	7,320	90,900
December:					
Steel:					
Stainless and heat resisting	1,740	1,600	W	3,340	38,200
Alloy (excludes stainless)	281	W	W	281	6,740
Superalloys	868	--	W	868	12,400
Copper-nickel alloys	W	W	--	W	W
Electrical, magnetic, and expansion alloys	W	--	--	W	W
Other nickel & nickel alloys	1,160	W	W	1,160	17,000
Cast iron	W	--	--	W	W
Electroplating (sales to platers)	1,210	--	W	1,210	14,400
Chemical and chemical uses	W	--	W	W	W
Other uses	360	61	181	602	9,580
Total reported	5,610 2/	1,660	181	7,460	98,400
Total all companies (calc) 3/	XX	XX	XX	10,900	143,000
1996: January-December	77,800	17,600	2,980	98,400	XX
1995: January-December	82,600	17,300	4,950	105,000	XX

W Withheld to avoid disclosing company proprietary data; included in "Other uses" category. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Of consumption, 4,770 metric tons were consumed as cathodes and pellets, the remainder as briquets and powder.

3/ Figures represent calculated apparent consumption; based on the revised proportion of reported primary consumption (68.69%) to apparent primary consumption for 1994.

TABLE 2
ENDING STOCKS OF NICKEL (EXCLUSIVE OF SCRAP) HELD BY CONSUMERS, BY FORM AND USE 1/ 2/

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total
1995:				
December	5,200	635	204	6,030
1996:				
January	4,690	329	106	5,120
February	5,060	292	95	5,450
March	4,610	207	69	4,890
April	4,430	131	81	4,640
May	4,060	343 r/	92	4,500
June	3,640 r/	337	91	4,060
July	3,450 r/	517 r/	70	4,030
August	3,360 r/	429	77	3,870 r/
September r/	2,930	277	82	3,290
October	2,790 r/	472 r/	80	3,340
November	6,190	642 r/	64 r/	6,900 r/
December:				
Steel (stainless, heat resisting and alloy)	3,280	1,540	(3/)	4,820
Nonferrous alloys 4/	1,570	--	(3/)	1,570
Foundry (cast irons)	(3/)	--	(3/)	(3/)
Chemical (catalysts, ceramics, plating salts, etc.) and unspecified uses	148	--	77	225
Total	5,000	1,540	77	6,620

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Stocks held by companies that consume nickel in more than one end use category are credited to the major category. Stocks are subject to revision owing to inventory adjustment.

3/ Included in "Chemicals and unspecified uses" category.

4/ Includes superalloys, nickel-copper and copper-nickel alloys, permanent magnet alloys, and other nickel alloys.

TABLE 3
CONSUMPTION AND ENDING STOCKS OF PURCHASED SECONDARY NICKEL, BY USE 1/

(Metric tons, nickel content)

	Consumption			Stocks		
Period	Ferrous scrap 2/	Nonferrous scrap 3/	Total scrap	Ferrous scrap 2/	Nonferrous scrap 3/	Total scrap
1995:						
December	3,970	644	4,620	3,500	103	3,600
January-December	48,800	9,200	58,000	XX	XX	XX
1996:						
January	3,430	760	4,190	3,710	121	3,830
February	3,380	1,120	4,500	4,190	114	4,310
March	4,650	965	5,620	3,970	91	4,060
April	3,910 r/	815	4,730 r/	3,730 r/	90	3,820 r/
May	4,100 r/	783	4,880 r/	3,100 r/	100	3,200 r/
June	3,770 r/	625	4,400 r/	3,040 r/	100	3,140 r/
July	3,670 r/	680	4,350 r/	3,290 r/	97	3,390 r/
August	2,860 r/	1,070	3,930 r/	3,350 r/	98	3,440 r/
September	3,490 r/	861 r/	4,350 r/	3,090 r/	109	3,200 r/
October	3,600	762	4,360	3,340 r/	107 r/	3,440 r/
November r/	3,250	775	4,020	3,630	89	3,720
December	3,310	646	3,960	3,520	88	3,610
January-December	43,400	9,860	53,300	XX	XX	XX

r/ Revised. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Nickel content is calculated from an average nickel content and the reported gross weight of scrap.

3/ Combined consumption and stocks of aluminum-base, copper-base, and nickel-base scrap.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF NICKEL, BY COUNTRY 1/

(Metric tons, nickel content 2/)

Period and country of origin	Cathodes, pellets, and briquets	Powder and flakes	Ferro-nickel	Metal-lurgical-grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total 3/	Total year to date 4/	Wrought nickel
1995:										
November	9,200	820	1,440	35	387	261	346	12,500	146,000	34
December	8,930	563	830	25	308	239	210	11,100	157,000	77
January-December	118,000	9,510	16,700	530	4,740	3,190	4,210	157,000	XX	2,310
1996:										
January	11,000	1,030	887	46	333	313	377	14,000	14,000	51
February	9,970	709	1,540	14	309	312	419	13,300	27,200	55
March	9,130	917	2,130	39	385	369	241	13,200	40,400	60
April	11,300	760	980	21	344	313	187	13,900	54,300	52
May	11,000	945	2,020	91	411	319	219	15,000	69,400	72
June	7,750	927	1,430	9	343	289	254	11,000	80,400	43
July	7,230	684	1,470	18	238	274	216	10,100	90,500	42
August	9,250	835	1,120	14	431	319	265	12,000	103,000	44
September	9,390	629	884	33	416	322	234	11,900	114,000	52
October	7,850	779	1,050	60	581	373	311	11,000	125,000	67
November:										
Australia	1,360	20	--	9	--	--	--	1,390	13,900	--
Brazil	--	--	50	--	--	--	--	50	451	--
Canada	4,500	563	--	90	60	172	99	5,490	52,900	5
Colombia	--	--	100	--	--	--	--	100	978	--
Dominican Republic	--	--	651	--	11	--	--	662	8,670	--
Finland	215	56	--	--	--	--	39	310	4,200	--
France	37	--	--	--	57	--	27	121	1,940	(5/)
Germany	21	1	--	--	20	--	12	54	757	24
Japan	--	--	--	--	5	5	34	44	1,100	4
New Caledonia	--	--	570	--	--	--	--	570	4,160	--
Norway	2,370	--	--	--	8	--	--	2,380	21,700	--
Russia	781	--	137	--	--	--	--	918	18,500	--
South Africa	272	--	3	--	--	--	--	275	1,200	--
United Kingdom	48	3	--	--	36	--	13	100	1,770	1
Zimbabwe	218	--	--	--	--	--	--	218	1,600	--
Other	--	26	8	--	131	132	68	365	4,690	4
Total	9,820	670	1,520	99	328	308	290	13,000	138,000	38
1996: January-November	104,000	8,880	15,000	443	3,920	3,510	3,010	138,000	XX	576
1995: January-November	109,000	8,950	15,900	505	4,430	2,950	4,000	146,000	XX	2,240

XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemical category includes chlorides (25%), sulfates (22%), and other salts (22%), supported catalysts (22%), and oxide, sesquioxide and hydroxide (65%).

3/ Excludes wrought nickel.

4/ May include revisions for prior months.

5/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 5
U.S. EXPORTS OF NICKEL, BY COUNTRY 1/

(Metric tons, nickel content 2/)

Period and country of destination	Cathodes, pellets, and briquets	Powder and flakes	Ferro-nickel	Metal-lurgical-grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total 3/	Total year to date 4/	Wrought nickel
1995:										
November	38	72	235	196	1,270	2,370	117	4,300	47,900	18
December	21	74	294	471	827	1,800	164	3,650	51,500	147
January-December	1,310	1,230	807	3,500	14,200	27,600	2,920	51,500	XX	475
1996:										
January	7	69	429	262	714	1,570	158	3,210	3,210	22
February	72	53	60	78	903	1,430	305	2,900	6,110	23
March	80	92	181	271	859	1,140	261	2,880	8,990	52
April	149	63	119	134	965	2,760	389	4,570	13,600	27
May	82	171	220	331	782	1,520	519	3,620	17,200	31
June	79	142	73	616	800	1,530	295	3,530	20,700	19
July	7	50	650	480	778	2,650	364	4,980	25,700	30
August	44	97	299	348	703	2,200	424	4,120	29,800	64
September	6	80	179	359	1,210	2,230	292	4,360	34,200	27
October	20	79	359	420	1,280	2,270	185	4,620	38,800	63
November:										
Australia	--	--	--	--	--	7	--	7	104	--
Belgium	--	1	--	--	--	--	--	1	255	(5/)
Canada	2	60	--	512	476	296	61	1,410	15,200	(5/)
Germany	--	2	--	(5/)	40	1	--	43	726	6
India	--	--	175	--	9	31	(5/)	215	1,530	--
Italy	--	(5/)	--	--	(5/)	--	--	(5/)	23	--
Japan	--	2	--	(5/)	101	287	17	407	3,500	1
Korea, Republic of	--	3	--	--	--	678	--	681	5,340	--
Mexico	14	6	--	5	--	2	12	39	425	23
Netherlands	--	(5/)	--	--	--	5	--	5	269	1
Spain	--	--	--	--	--	--	--	--	4,490	1
Sweden	--	(5/)	--	--	143	22	--	165	2,450	--
Taiwan	--	1	28	--	--	166	11	206	4,300	--
United Kingdom	1	5	--	--	7	1	(5/)	14	294	6
Other	2	8	120	--	141	100	96	482	3,580	21
Total	19	88	324	517	918	1,610	197	3,670	42,500	59
1996: January-November	565	986	2,890	3,820	9,920	20,900	3,390	42,500	XX	419
1995: January-November	1,290	1,150	513	3,030	13,300	25,800	2,760	47,900	XX	328

XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemical category includes chlorides (25%), sulfates (22%), and other salts (22%), supported catalysts (22%), and oxide, sesquioxide and hydroxide (65%).

3/ Excludes wrought nickel.

4/ May include revisions for prior months.

5/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF NICKEL ALLOYS, BY COUNTRY 1/

(Metric tons, gross weight)

Period and country of origin	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total	Total year to date 2/
1995:									
November	179	61	169	112	(3/)	39	43	603	8,510
December	79	183	158	130	3	49	29	632	9,140
January-December	3,000	1,180	2,030	1,510	3	1,040	378	9,140	XX
1996:									
January	114	212	154	116	(3/)	98	43	738	738
February	259	152	75	92	(3/)	65	61	704	1,440
March	300	176	151	123	(3/)	107	58	916	2,360
April	561	180	158	132	(3/)	95	20	1,150	3,500
May	178	249	175	170	(3/)	67	18	858	4,360
June	221	242	116	157	(3/)	71	54	861	5,220
July	188	117	195	90	(3/)	44	107	743	5,960
August	91	219	97	187	(3/)	49	615	1,260	7,220
September	117	70	144	133	(3/)	50	59	573	7,800
October	249	151	120	90	(3/)	72	60	741	8,540
November:									
Australia	200	--	--	--	--	--	--	200	1,140
Belgium	8	--	--	(3/)	--	--	(3/)	8	172
Brazil	--	--	--	--	--	--	--	--	10
Canada	10	1	3	(3/)	--	5	3	22	289
France	--	6	60	16	--	2	1	85	1,080
Germany	1	79	37	60	(3/)	18	1	196	2,500
Italy	--	46	--	--	--	3	(3/)	49	609
Japan	9	--	3	2	(3/)	19	2	35	303
Mexico	(3/)	--	--	--	--	--	(3/)	(3/)	58
Netherlands	--	--	(3/)	--	--	9	10	19	128
South Africa	35	--	--	--	--	--	--	35	658
Sweden	--	(3/)	48	--	--	4	--	52	536
United Kingdom	71	29	1	1	(3/)	6	8	116	1,420
Other	15	1	15	2	--	--	4	37	483
Total	349	161	168	81	(3/)	66	29	854	9,390
1996: January-November	2,630	1,930	1,550	1,370	2	784	1,120	9,390	XX
1995: January-November	2,920	999	1,870	1,380	1	993	349	8,510	XX

XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ May include revisions for prior months.

3/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 7
U.S. EXPORTS OF NICKEL ALLOYS, BY COUNTRY 1/

(Metric tons, gross weight)

Period and country of destination	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total 2/	Total year to date 2/
1995:									
November	325	244	124	696	8	63	472	1,930	16,800
December	456	390	173	754	8	117	146	2,040	18,900
January-December	4,170	3,410	1,510	6,230	153	1,240	2,150	18,900	XX
1996:									
January	447	268	59	685	6	118	391	1,970	1,970
February	529	330	70	613	15	205	291	2,050	4,030
March	331	308	121	631	20	100	170	1,680	5,710
April	651	337	138	441	43	149	648	2,410	8,120
May	508	219	149	792	7	89	242	2,010	10,100
June	531	270	155	676	60	81	168	1,940	12,100
July	335	349	148	628	8	84	451	2,000	14,100
August	540	184	176	619	5	96	183	1,800	15,900
September	274	177	166	622	9	78	176	1,500	17,400
October	602	240	147	600	12	49	394	2,040	19,400
November:									
Australia	(3/)	(3/)	1	67	--	(3/)	--	68	1,000
Belgium	15	(3/)	--	(3/)	--	--	--	15	221
Canada	108	27	29	127	2	35	30	358	4,040
France	139	160	--	4	(3/)	(3/)	44	347	2,340
Germany	6	9	(3/)	35	(3/)	(3/)	3	53	624
India	--	--	1	--	--	--	--	1	65
Ireland	--	--	8	(3/)	--	--	(3/)	8	262
Italy	--	6	(3/)	148	--	2	--	156	1,210
Japan	116	1	9	116	--	14	8	264	2,800
Korea, Republic of	--	8	5	3	--	7	20	43	299
Mexico	1	2	27	3	1	4	6	44	1,080
Netherlands	32	18	--	4	--	1	--	55	396
Singapore	--	(3/)	4	--	--	1	2	7	164
Spain	--	--	(3/)	--	--	(3/)	(3/)	1	127
Sweden	--	(3/)	--	3	(3/)	(3/)	--	4	121
Switzerland	7	2	1	3	(3/)	(3/)	--	13	197
Taiwan	1	--	(3/)	19	--	(3/)	28	48	235
United Kingdom	51	65	17	161	(3/)	4	1	299	3,460
Other	7	42	12	30	2	3	135	231	2,770
Total	485	340	113	725	5	74	276	2,020	21,400
1996: January-November	5,230	3,020	1,440	7,030	191	1,120	3,390	21,400	XX
1995: January-November	3,710	3,020	1,340	5,480	145	1,130	2,000	16,800	XX

XX Not applicable.
1/ Data are rounded to three significant digits; may not add to totals shown.
2/ May include revisions for prior months.
3/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 8
NICKEL CONSUMPTION IN CAST AND WROUGHT PRODUCTS

	Percent	
	Wrought	Cast
December 1996:		
Stainless and heat resisting steels	100	(1/)
Alloy steels	99	1
Superalloys	78	22
Copper-nickel alloys	96	4
Other nickel-base alloys	100	(1/)

1/ Less than 1/2 unit.

TABLE 9
NICKEL PRICES

Date	Cathode NY Dealer $/lb.	LME Cash $/t	LME Cash $/lb.	18/8 Stainless steel scrap Pittsburgh $/long ton(gw)
1996:				
Average for month of:				
November	3.226	6,943.381	3.149	737
December	3.065	6,580.750	2.985	730
Yearly average 1996:	3.502	7,500.815	3.402	832
For week ending:				
November 1	3.33-3.38	7,192.000	3.262	725-750
November 8	3.27-3.33	7,049.000	3.197	725-750
November 15	3.31-3.34	7,074.200	3.209	725-750
November 22	3.13-3.20	6,744.000	3.059	725-750
November 29	3.18-3.25	6,873.500	3.118	725-750
December 6	3.14-3.20	6,756.600	3.065	720-740
December 13	3.08-3.17	6,645.700	3.014	720-740
December 20	3.03-3.12	6,534.700	2.964	720-740
December 27	3.02-3.09	6,438.333	2.920	720-740
1997:				
January 3	2.96-3.01	6,359.625	2.885	665-690
January 10	3.04-3.31	6,964.100	3.159	675-700
January 17	3.27-3.43	7,173.600	3.254	675-700
January 24	3.35-3.40	7,217.000	3.274	720-740
January 31	3.35-3.44	7,197.400	3.265	720-740

Sources: Platt's Metals Week and American Metal Market.